



# **Great Lakes Sea Grant Fisheries Leadership Institute**

October 21-22, 2003

Lansing Center

Lansing, Michigan

# Sustaining the Great Lakes Fisheries through Partnerships

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Lansing, Michigan  
October 21, 2003

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*“More and more, in a place like this, we feel ourselves a part of wild Nature, kin to everything.”*

*John Muir*

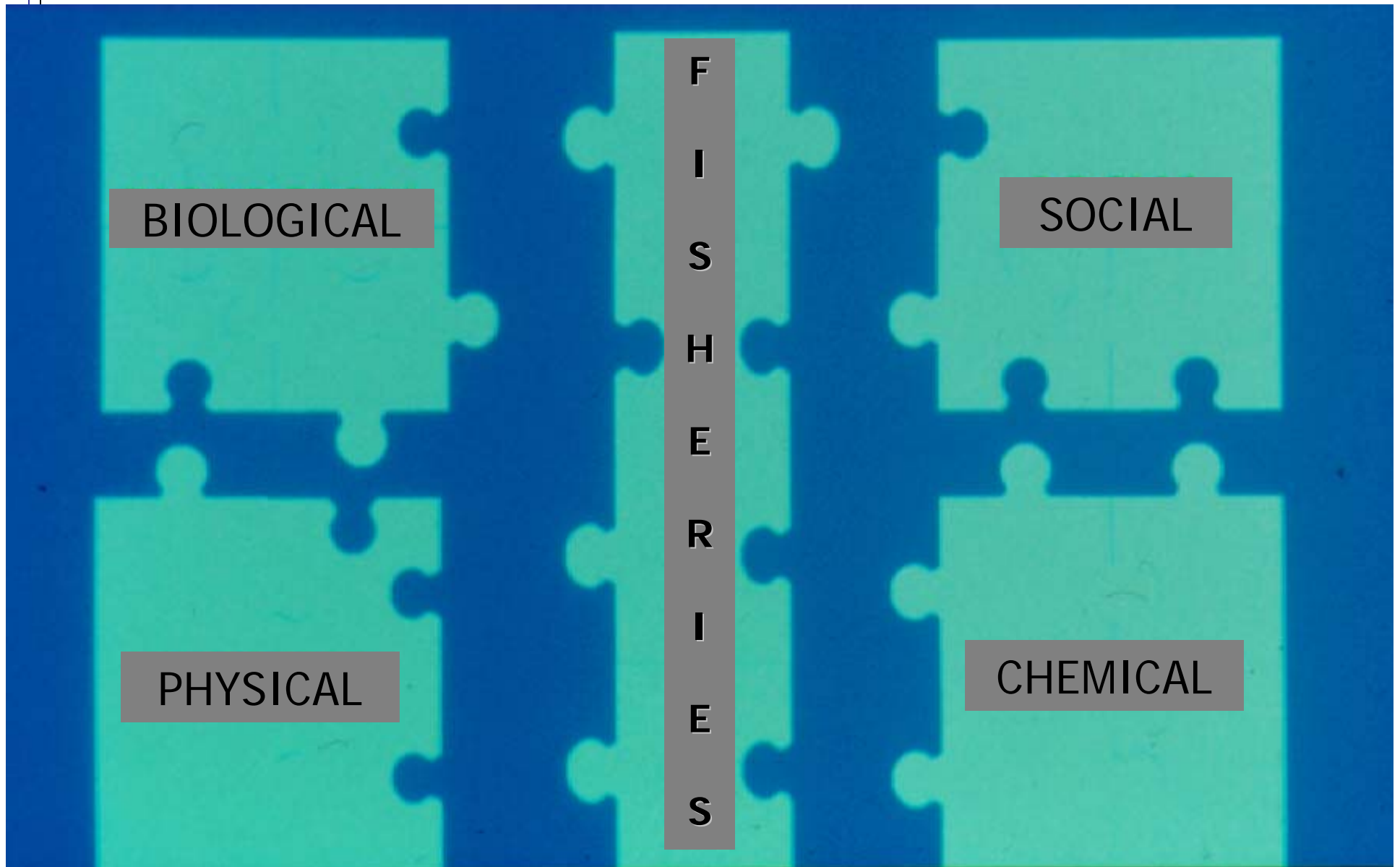


# Multi-jurisdictional Partners

- Municipalities
- Counties
- State
- Federal
- International
- NGOs
- Universities



# Ecosystem Linkages





# Department of Fisheries and Wildlife

- Established in 1950
- Housed in the College of Agriculture and Natural Resources at Michigan State University
- 35+ faculty
- 100+ undergrad and grad students





# Department of Fisheries and Wildlife

- Mission

“...provide the education, research and outreach needed by society for the conservation and rehabilitation of fish and wildlife resources and their ecosystems”





# Department of Fisheries and Wildlife

- Areas of expertise—examples include:
  - Fisheries and wildlife management
  - Ecosystem management
  - Endangered species
  - Fish physiology and behavior
  - Genetics
  - Wildlife habitat analysis





# Department of Fisheries and Wildlife

- Aquatic and wildlife disease
- Water pollution microbiology and public health
- Environmental law and policy
- Human dimensions and economics of fisheries and wildlife management
- Communications and marketing



An aerial photograph of the Great Lakes region in North America, showing the five Great Lakes (Superior, Michigan, Huron, Erie, and Ontario) and the surrounding land. The entire image is overlaid with a semi-transparent green filter. The title 'The Great Lakes' is written in white text in the upper right corner.

# The Great Lakes

- 94,000 square miles
- 6 quadrillion gallons of water
- 20% of the world's surface fresh water
- 90% of the U.S. supply
- 38,575 square miles of water area
- 3,288 miles of shoreline

# Business of Ecosystem Goods and Services

- Assess and reassess value
- Nature's ROI (return on investment)



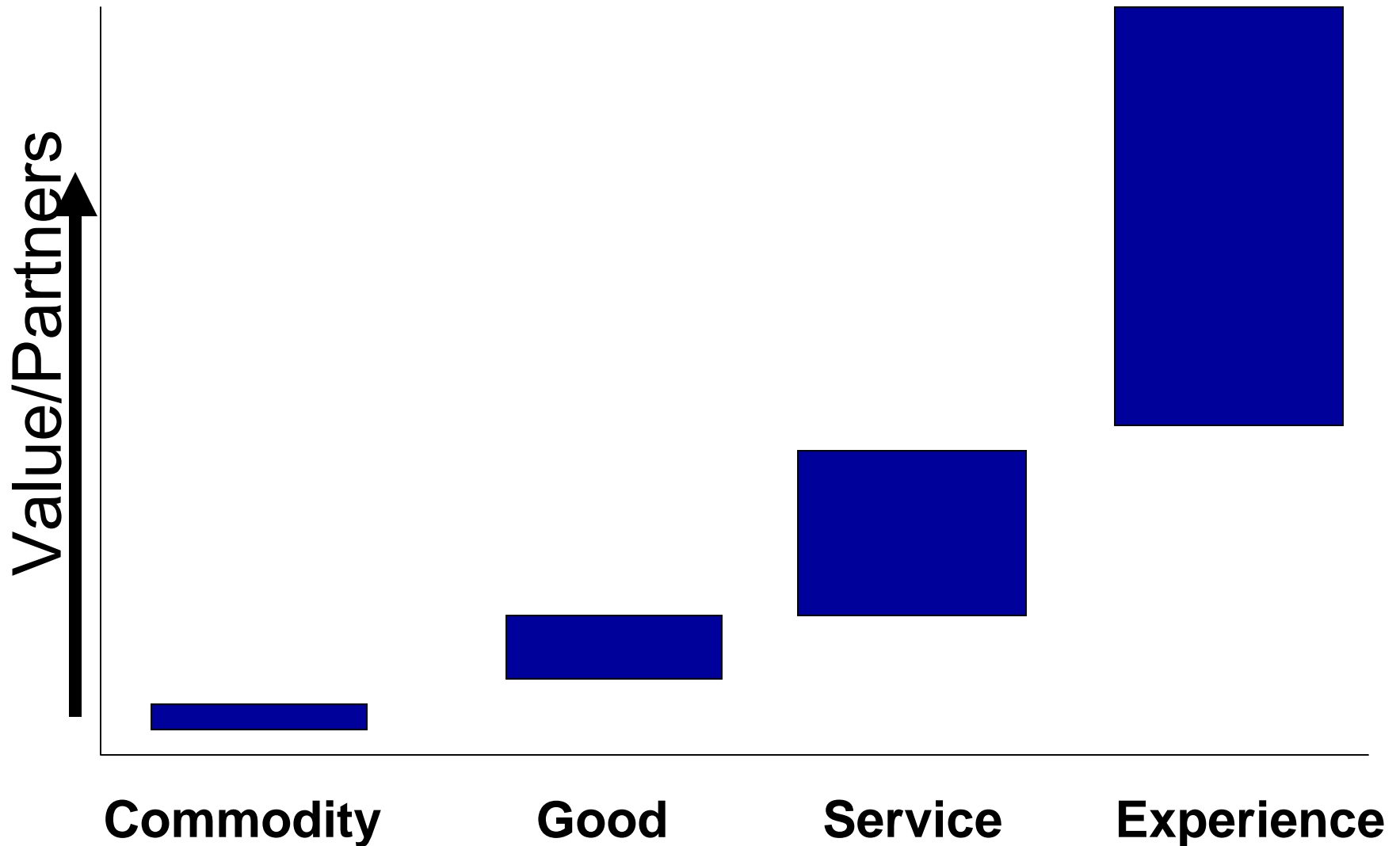
# Value of the Resource

## Multiple values

- "Traditional" harvest/recreational values
- Existence values
- Ecosystem "health" values



# Value of the Resource



Adapted from *The Experience Economy*, Pine and Gilmore, 1999

# Value of the Resource Nationally

- **34 million anglers spent \$35.6 billion and supported 1.1 million jobs\***



\*2001 U.S. Fish and Wildlife Service National Survey of Fishing, Hunting and Wildlife-Associated Recreation

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# Value of the Great Lakes Resource

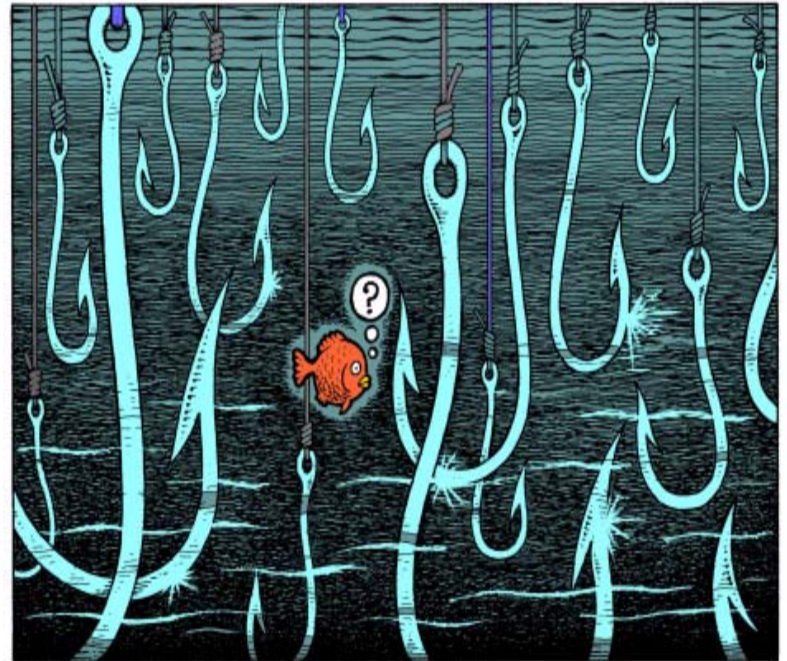
- The commercial and sport fishery on the Great Lakes is collectively valued at more than **\$5 billion** annually.\*



\*Great Lakes Information Network

# Threats to Great Lakes Fishery

- Overfishing
- Global warming and pollution
- Nonindigenous species
- Water security



# Threats to Great Lakes Fishery

- Landscape integrity
- Habitat degradation and loss
- Expanding human population
- Declining fish populations



# Lack of public ...

Awareness

Concern

Environmental education

Participation

Communication



“When the well’s dry, we know  
the worth of the water.”

Ben Franklin

# What is Sustainability?

- Many definitions have been proposed, the view we prefer is:

**“Maintenance of social and economic benefits or ecosystem services indefinitely”**

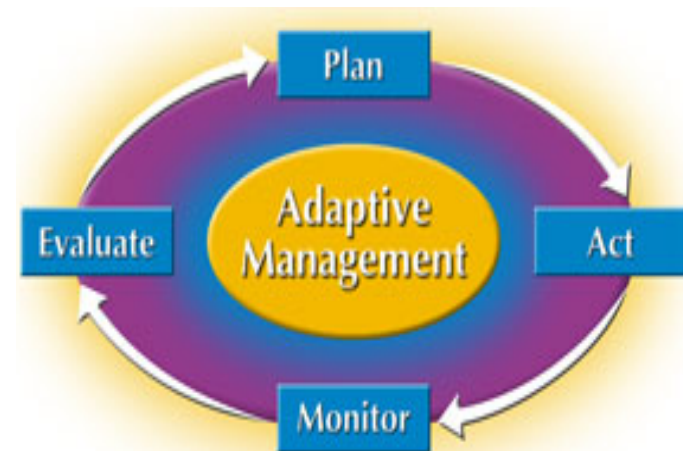
- Put another way, sustainability is the balance between the productive capacity of the environment and our use of this production
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# What Hinders Sustainability?

- Loss of habitats
  - Loss of genetic diversity
  - Competing allocations of land and water
  - Overharvesting and interceptions
  - Globalization of salmon markets
  - Scientific uncertainty, lack of information
  - Lack of awareness and communication between stakeholders
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# What Promotes Sustainability?

- Recognizing the interconnectedness of social and ecological systems
- Supporting stakeholder knowledge, expectations, and values
- Having alternatives and adaptability



# Policy/Mgt. Recommendations

- Expand public education and dialogue
  - Employ a precautionary approach
  - Explore alternative conservation incentives
  - Encourage inclusive, adaptive, and transparent decision-making
  - Align institutions with ecosystem processes
  - Understand, utilize, and expand networks
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# Partnership for Ecosystem Research and Management

A PERManent future for natural resources



- Established Earth Day 1993
- Partners
  - Michigan Department of Natural Resources
  - Great Lakes Fishery Commission
  - Great Lakes Science Center
  - Michigan State University



# Partnership for Ecosystem Research and Management

A PERManent future for natural resources



- Examples of PERM projects:

- Sex pheromone communication in sea lamprey
- Energy dynamics of Lake Michigan chinook salmon
- Improving fishery stock assessment in the Great Lakes
- Genetic tagging
- Economic modeling
- Landscape ecology



# Partnership for Ecosystem Research and Management

A PERManent future for natural resources



- Partnership to ID ecosystem problems and solutions
- Shared vision
- Promotes dialogue and cooperation
- Cutting-edge research
- Outreach



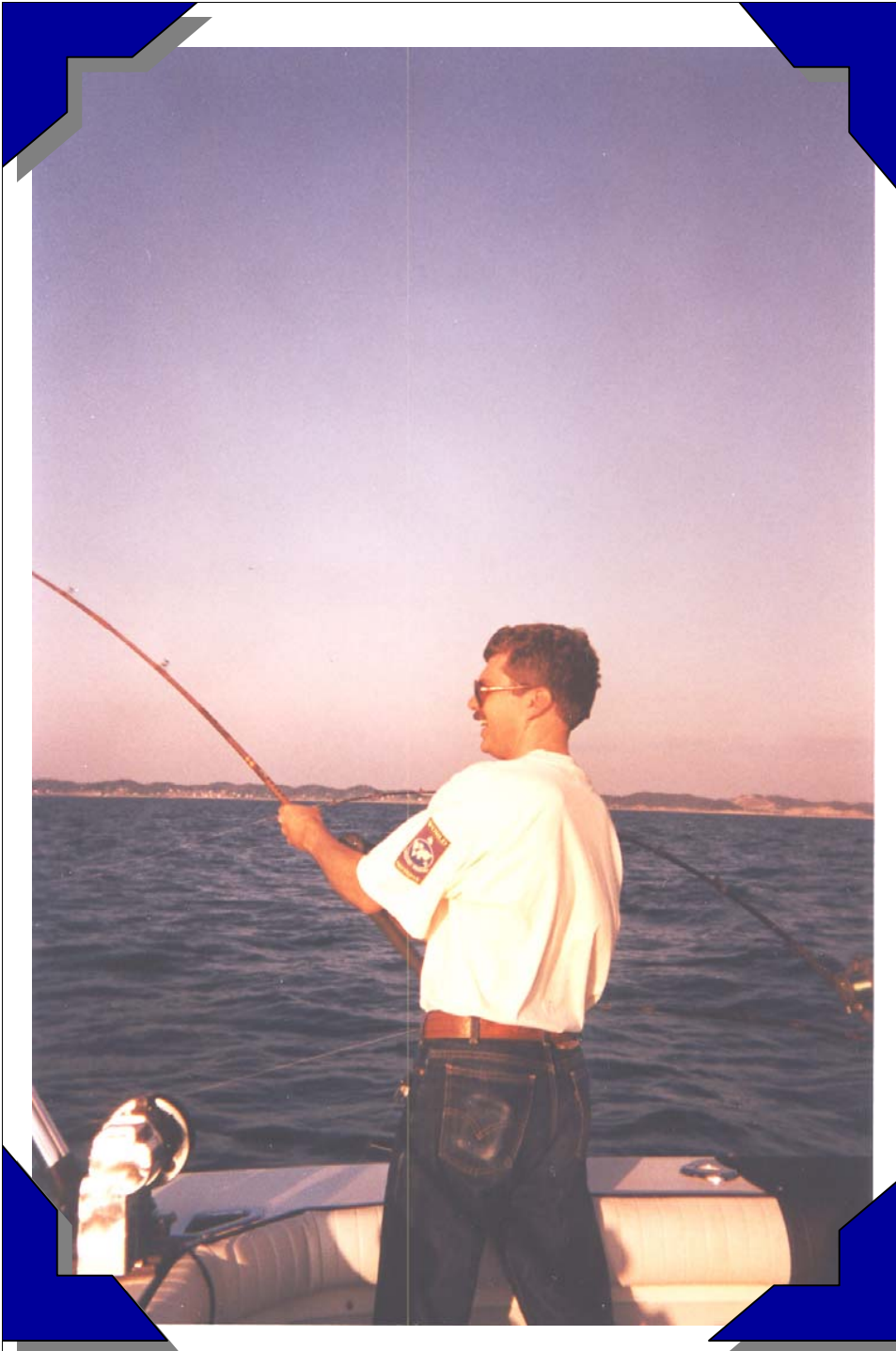
# THE Challenge

- Facilitate interdisciplinary and multi-jurisdictional collaboration
- Augment strengths
- Expand public education and dialogue





*It's a lot like wrestling pigs...you both get dirty, but the pig likes it!*



**“...how can we not  
do everything  
possible to protect  
what we love?”**

**Bill Taylor**





**Department of Fisheries and Wildlife**  
**Preserving our past...Creating our future**

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